〈特集：地域保健医療の政策的動向〉

Current topics on health care planning in Japan

Kazuaki MIYAGISHIMA and Toshitaka NAKAHARA

1. Introduction

The last decade of the century has given us a good opportunity to review what the planning means in a modern society. We have unexpectedly become witness of the global change that is expelling from the world's political scene communist regimes, where everything, ranging from nuclear armament to fresh egg distribution, must be planned and executed by the authority.

Planning is no more monopoly of the communist governments. It has no doubt become an indispensable means of administration even in western industrialised countries. From a historical point of view, the idea of planning most typically appeared during wartime or post-war period of reconstruction. This is explained by the fact that clear social purpose and legitimacy to rationalise limited resources and, therefore, to often contest against individual rights and liberty, are prevalent under those situations, calling for planning in consequence.

Its origin being so, the planning in the health care field is better understood in connection with other types of administrative planning, such as urban planning, which constitute most powerful and disputable acts executed by every modern administration.

2. Historical

It is arguable that Japan has been enjoying a mixed economy scheme in its health care delivery system. The meaning of mixture is here twofold : on one hand, the medical care is mostly provided by private hospitals and clinics whereas the preventive service has been ensured on free-of-charge basis by public institutions such as Public Health Centres ; on the other hand, more than 70% of the hospitals have been established and run by private bodies whereas the medical insurance scheme, including its fee table, is determined by the Government, not by a market mechanism.

The first thoughts of incorporating the planning method into the health care system emerged soon after World War II and were examined repeatedly from 1950's through 70's[1]. Although the programme regulating public hospital beds was introduced in 1962, the comprehensive materialisation of hospital planning did not see the light of the day until 1985 when the Medical Service Act was amended to include a new chapter, entitled "Medical Planning"[2].

Under the new legislation, the prefectural governments (*To, Dô, Fu and Ken*) were appointed principal actor of Medical Planning. The law empowered each Governor to determine how to divide his prefectural territory into Health Sectors (*Iryôken*) and to set a maximal number of beds in each of the Sectors.

3. Medical Plan

Prefectural Medical Plan as defined by Chapter 2 -2 of the Medical Service Act consists of two components : mandatory and optional descriptions. The former includes the demarcation of the geographical sub-divisions (Health Sectors) concerning ordinary beds and special beds in hospitals, as well as the number of "necessary" hospital beds for respec-

(from Department of Public Health Administration, the Institute of Public Health)

tive categories. As an optional component, the prefectural governments can declare other objectives than hospital bed demand, such as future health status indicators, need of health personnel, or, plans for network-making between clinics and hospitals.

The Medical Plan is based on the premise that the Medical care delivery follows a hierarchical, three-layer system. The tertiary medical care being provided on the whole prefectural level, the Health Sector supposedly corresponds to the area where the demand for the secondary care is satisfied. The area for primary care is not mentioned in the Medical Plan. It should be noted that there is no obligation for inhabitants to consult a particular hospital or a clinic in the Health Sector in which they live. As they have free choice of medical facilities, the demarcation concerns only hospital bed approval by the authority and does not restrict patients' behaviour.

A Medical Plan must be authorized by the Prefectural Medical Council and by the concerned municipalities, before it be published or revised every five years. This article now focuses on the overview and evaluation of the mandatory description so far elaborated by the 47 prefectures.

3-1. Geometry of Health Sector

As result of the demarcation determined by 47 prefectural Medical Plans, Japan was divided into 341 Secondary Health Sectors as seen in Fig. 1. Each prefecture consists of several (often 4 to 10) secondary Health Sectors and constitutes a tertiary Health Sector by itself. However, Hokkaidô, the largest prefecture of northern land, comprises six tertiary Health Sectors. The boundary of tertiary sectors are shown by bold line in Fig. 1.

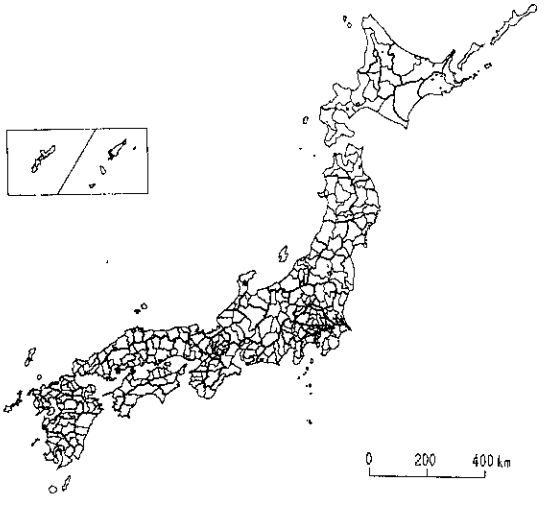

Fig. 1 Health Sectors in Japan

We can observe a tendency to have larger sectors in rural areas, although there is no absolute consistency in relation to the size of prefectures. No sector border crosses prefectural boundaries.

The prefectural governments apparently tried to harmonise new Health Sectors with the existing geographical subdivisions, such as Public Health Centre area, Municipalities' Union, local Physicians' Association area or Prefectural Branch Office area[3]. Some of them performed in advance a survey to identify the approximative boundary of self-satisfactory habitation zones. Despite those efforts, there is a notable difference from one prefecture to another, in terms of demarcation principle, resulting in a large variety in size and population of Health Sectors (Table 1).

Table 1 Characteristic of Secondary Health Sectors

	RESIDENT POPULATION	SUPERFICIES (km^2)	POPULAT. DENSITY ($/km^2$)	No. OF MUNICIPALITIES	No. OF PUBLIC HEALTH CENTRES	DEMAND OF BEDS	EXISTING BEDS
MAX.	2,981,313	10,831	16,524	33	24	26,253	48,560
MIN.	27,976	63	17	1	0.3	277	52
AVERAGE	362,563	1,898	959	9.6	2.5	3,458	3,714
S.D.	439,257	1,855	2,348	5.3	2.5	3,924	4,997

Note: Population is based on 1998 census.
A Public Health Centre serving three sectors is counted as 0.3.

If we compare Health Sectors with other administrative areas, Health Sectors are less varied in catchment population than municipalities but more varied than Public Health Centre areas. In superficies, Health Sectors are more homogenous than prefectures, Public Health Centre areas and municipalities.

An average-sized Health Sector, approximately 1000 square kilometres large and with some 400 thousand population, seems to give an appropriate basis for the planning of local health services. It would have a sufficient number of hospital beds to be properly allocated to different specialties of several hospitals and the people living on the margin of the sector would not need to travel more than an hour before reaching a principal hospital[3,4].

Such ideal sectors, however, do not exist so many, for most secondary sectors tend to be less populated except for urban sectors in Tokyo and Osaka regions (Fig. 2). A similar dissociation also exists within a prefecture, often contrasting the central sector and the rural ones of the prefecture.

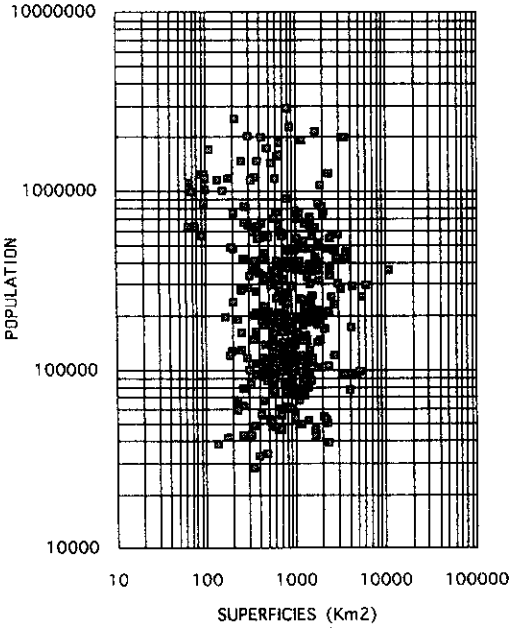

Fig. 2 Health Sectors by Superficies and Population

3-2. Ceiling of Hospital Beds

As part of the mandatory description, a Medical Plan defines hospitalisation demand for each Health Sector, in form of the maximal number of hospital beds, which is calculated according to Equation 1, where A is the population by gender and age-group, B is the average hospitalisation rate in the region in which the sector is included, C is the inflow of hospitalised patients, i.e., number of in-patients having legal domicile outside the sector, D is the outflow, and E is the national average of bed occupancy rate. Japan as whole comprises nine regions, each of which groups more than one prefectures, except the Prefecture of Hokkaido making an independent region of itself.

$$\text{Bed Need} = \frac{\Sigma AB + C - D}{E} \quad \cdots\cdots(1)$$

When the number of hospitalised patients having legal domicile in the sector is smaller than ΣAB, then the bed demand can be augmented up to the value given by Equation 2.

$$\text{Bed Need} = \frac{\Sigma AB + C - \frac{1}{3}D}{E} \quad \cdots\cdots(2)$$

When a request for opening new beds in a hospital comes out from a bed-rich Health Sector, then the governor can withhold his permission, unless the request aims to extend admission service of a particular clinical discipline so far in shortage in the sector.

In real circumstances, it happens in many Health Sectors that the theoretical demand is already exceeded by the actual number of beds by the time when the new or revised Medical Plan is officially announced. In such cases, the Governor cannot go so far as to order closing or converting excessive beds by force so that the actual number of beds coincide the calculated demand. The number of beds consequently stays the same until some hospitals voluntarily close their beds.

As in March 1992, 179 sectors were classified as

overbedded and 162 sectors as non-overbedded, as far as ordinary beds were concerned. The total of excessive beds amounted to 124,548 beds, which was 9.99% of 1,246,622 existing hospital beds.

4. Discussion

One of the purposes of introducing Medical Planning was incontestably to decelerate the increase of hospital beds and to achieve geographical equilibrium of bed distribution, the chief objective being the cost containment of the national medical expenditure.

Interestingly, as Fig. 3 and Fig. 4 point out, the growth speed of ordinary beds had taken a breath during the first half of the 1980's. Since the Medical Planning was introduced in 1985 (and put in force in 1986), the increase rate of ordinary beds restarted to grow. It was presumably due to the tactics of hospital owners, who sought to obtain the permission for supplementary beds before the 1985 amendment began to work. Their new beds were put in use during the second half of the 1980's, thus explaining a paradoxical rise.

A still open question is whether the Medical Planning has successfully stopped the irrational increase of hospital beds, as is claimed by the Ministry of Health, or, the tendency of saturation had been apparent since long and the Medical Planning came at the last moment, bringing a side-effect of inducing transient surge in the number of hospital beds.

With respect to the influence of the Medical Planning onto the national medical expenditure, a dissociation can be observed between the growth rate of these two factors, as shown in Fig. 4. Thus the financial impact of the Medical Planning cannot be simply evaluated, except that the share of hospitalisation fee in the national medical expenditure stepped back from 44.2% in 1985 to 40.5% in 1991.

The Health Sector was originally conceived as

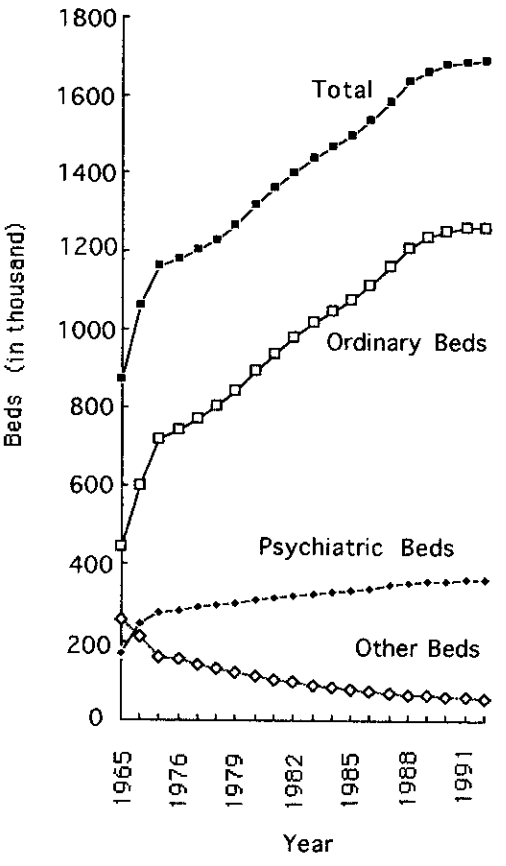

Fig. 3 Evolution of Number of Hospital Beds

the area in which the demand for hospital beds should be calculated. Since several years, however, its character has been changing in the sense that the sector began to serve as the field of integration of various health and social services. Underlying are the situations that a closer linkage between social (publicly offered) services and medical (often privately offered) services is crucial in view of increasing old population, and that the national government of the rapidly aging society seeks to pursue administrative reforms in favour of decentralisation, putting larger emphasis on the policy-making and financial role of the prefectures and municipalities.

The current shapes of the prefectures and municipalities are nothing more than capricious products

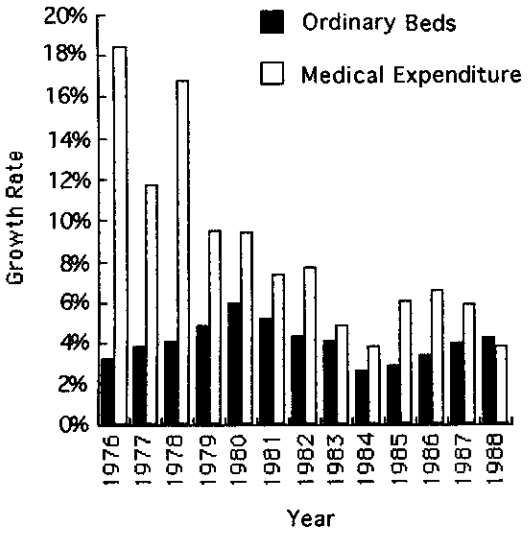

Fig. 4 Hospital Beds and National Medical Expenditure

of the past century. Their size and population vary so enormously that the national government has not been quite sure if it can hand over good part of its duty and competence to such variable local governments. In these circumstances, there is nothing but the Health Sector, newly conceived and less variable area, that can serve as up-to-date habitation space and also remain pertinent in the future if it will be granted with a proper government.

The Medical Plan is not the only example of the change in trend. The Health and Social Plan for the Aged, recently elaborated by prefectures and municipalities in 1993, borrows Health Sectors as its working space. Other plans, proposed by Ministry of Construction and other Ministries, also call for the alike space as more adapted administrative area to the current needs.

In other words, the "rush" of various plans can be interpreted as ministries' lack of confidence in local governments. Under the on-going budgetary reform, the ministries are being obliged to convert their direct subvention into global donation. In parallel, the magical power of supervising authority, which they rear since long, is now in danger of disappearance. To give local governments duty to elaborate a so-and-so plan, in conformity with the norms authored by a ministry, may be the only way to conserve the power of the national government.

Besides its expected effect of controlling hospital bed rise, the present scheme of Medical Plan embraces following problems that should be addressed as early as possible:

1) The need calculation is incomplete. The equations stand on the actuality and have therefore no power to neutralise long-term increase pressure based either on the bed increase in neighbouring sectors or on migration of population. The equations do not measure the real need for hospital care but substitute it with the ad-hoc hospital admission rates in the region concerned.

2) There is no forcing mechanism of bed closure in saturated sectors. Unless the hospitals get bankrupt without being replaced, the Plan does not serve as bed reducer.

3) The Plan does not correct the inter-regional inequality of medical resource consumption. It is well-known that the people of Hokkaido and of western regions possess considerably more beds than others. For example, the inhabitants of Kochi Prefecture have 2.89 times as many hospital beds per capita as colleagues in Kanagawa. As the equation let each region go by itself, the geographically unequal average length of stay does not disappear.

4) The plan does not mention clinical specialties other than "ordinary," "psychiatric" or "tuberculoses". No attention is paid to an unbalanced distribution of beds amongst specialties, which would lead to serious problems in smaller sectors. In order that bed demand for each principal discipline be properly described and satisfied, the population of a Health Sector is expected to be larger than some 100,000 inhabitants.

5) The plan is macro-operational. The necessary beds in reserve, which remain vacant during off-seasons, could hardly be considered by the macro-

scopic Medical Plan but calculated only through statistic approach for each group of beds of particular purpose. The neglect of geographical and institutional distribution of beds would sometimes pose problems, particularly because the variation in size of the sectors is colossal.

6) The Plan does not distinguish short-term and long-term beds, nor beds for secondary health care and tertiary health care. The Governor's "special addition" to bed demand calculation, which the Law permits for a handful of specialties, sometimes reveals inconsistency, especially in absence of a general principle of structural hierarchy.

7) The Plan only looks at hospital beds, not at costly medical equipment, such as MRI, pushing medical cost nevertheless higher. It does not take into account beds in "Health Facilities for the Aged" nor those in clinics (in Japan, any medical facility with less than 20 beds is entitled clinic).

8) No justification can be given to the phenomenon that the first-comers continue to practice and eliminate new-comers in a overbedded sector. The Medical Plan does not exclude the risk that right for beds be sold and bought in a black market. A compromise should be found between the principles of competition and professional liberty, and, the national goal of health cost containment.

9) The size of prefectural boundary, serving now as tertiary area of medical care, is so irregular that smaller prefectures cannot always afford and provide high-quality care by themselves. Due to historical reasons, prefectural and municipal boundaries do not respect natural boundaries of transportation so that local authorities are often obliged to carry out a complicated operation with neighbouring administrations.

5. Conclusion

Now that the pendant of Time swings to the preference of liberal economy, it seems paradoxical to see the President Clinton's United States moving towards rather "socialist" model under the democrat initiative.

Permanently getting influence from foreign systems of medical service delivery, Japan today occupies its place somewhere between the liberalist scheme (American traditional model)[5] and the socialist scheme (Hospital Plan as part of British NHS)[6,7]. What is meant by the health planning should therefore be carefully evaluated.

Admitting that the current Medical Planning contributed, to some extent, to controlling the number of hospital beds, some criticisms are directed to its filter-like character, which simply turns hospital investment pressure into an illusory bed need.

In parallel with the Medical Planning, an initiative was taken in 1986 by the Health ministry, claiming that the annual enrollment of medical students should be reduced by 10% by 1995. The Health Care Facilities for the Aged, introduced in the same year as the Medical Planning, was the first of its sort where the fixed fee system was applied for admission care.

These programmes aimed at stopping the escalation of the health care expenditure. Their effect is not yet certain to date, however. If Japan anyhow continues to believe in the God's invisible hands, more indirect regulations should be used in place of current highly restrictive methods, in order to penalise attempts to abuse the fee-for-service scheme.

Moreover, the stream of deregulation and decentralisation appears to stay strong in the Japanese politics scene. The vogue of planning will not be necessarily in support of local governments, in so much as the Planning is considered as a sort of "homework" imposed paternalisticly by the national government to the municipalities, in exchange with increased financial competence.

Obviously, the Medical Planning we have at present is not the best and final alternative. In solving the problems identified above, we should accumu-

late experiences about how to deal with the planning and give birth to an ever better planning method. On the way, a dramatic change may be needed in the whole administration structure or in the health care system.

To overcome a probable opposition of conservative political and administrative milieu, much time and effort shall be needed. It is no easy task to become a master of planning.

REFERENCES

1) Nakamata, K. and Gunji, A.: Journal of Public Health Practice (Japan) 56: 776-781, 856-862, 1992 (in Japanese).
2) Medical Service Act, Law no.205 of 1948.
3) Miyagishima, K. and Nakahara, T.: Perspectives in Future Health Planning, Nihon-iji-shinpo 3627: 75-98, and 3628: 95-98, 1993 (in Japanese).
4) Nakahara, T., Harita, T. and Miyagishma, K.: Characteristic of the Secondary Health Sector in Japan, Kosei-no-shihyo (forthcoming, in Japanese).
5) Paul-Shaheen, P. and Carpenter, E.S.: Legislating Hospital Bed Reduction; The Michigan Experience, J.Health Politics Policy Law 6: 653-675, 1982.
6) St George, D.: How many beds? Helping consultants to estimate their requirements, BMJ 297: 729-731, 1988.
7) Holland, W.W. and Watson, C.: Uses of epidemiology in health services planning. Acta Socio-medica Scand. 2-3: 71-78, 1972.

地域医療の政策的動向

宮城島 一明，中原 俊隆

(要 旨)

冷戦の終結とともに共産主義政体が次々と終焉を迎えつつある世界の動向に照らすとき，計画経済が軌道修正を受けながらも資本主義先進国の保健医療分野で依然として勢力を保っていることは，一見奇異に映る．1985年の医療法改正で医療計画を導入して以来，保健医療計画，老人保健福祉計画など，新しい計画が目白押しとなっている日本も例外ではない．

増大する医療費増大圧力に低成長経済の下で如何に対応すべきかという基本的問題が各国に共通する背景であるが，日本の場合の特別な事情として，財政的地方分権を推進する際の一種の担保として，地方政府に保健医療サービス提供に関わる計画の策定を義務付けるという側面があることが見逃せない．

本論では，病床規制に関する医療計画の現状を概観して合目的性および問題点を検証すると共に，新たな保健計画論を展開するための基本的論点を整理した．まず，医療費抑制という大目標に至るための病床数抑制効果については，医療計画の導入前から伸びの鈍化が既に現れていたことと駆け込み増床の影響から，簡単に評価することはできないものの，1990年以降は一般病床数の明らかな抑制効果が見て取れる．一方，俗に西高東低と言われるような病床の地域的偏在の是正には，医療計画は殆ど無力である．

現行の医療計画に内在する問題は，既存病床数に単純な処理を加えて見かけ上の需要に転換している計算式自体に求められる．適正規模の二次医療圏を保健福祉の統合空間と位置付け，合理的な需要測定に基づく計画方法をそこに適用することが将来に亙る課題である．その過程において，日本が西欧から譲り受けた福祉国家的な保健医療制度と，戦後の日本に流入した米国型の自由競争経済の両者との間の微妙なバランスを探ることが必要となろう．